World Food Prize Request for Information about Professor Ockerman's Influence Up to 2005

"I have been asked by the nominator to estimate the number of citizens I as an individual, have educated in some capacity and a fair estimate of the number of people influenced by the **Learning Cascade** of Ockerman Educators in the **World**. This **revolution of igniting aspiring minds over the last two generations (Last 45+years) is often called 'The Ockerman Catalyst'** by my alumni. This is a very difficult task to numerically estimate since steadfast information is not always available; data may vary as it differs from the different sources based on the realms of judgment and interpretation. Emphatically, I have done my best to be as objective as possible and even if my estimations are in error and requiring scaling up or down, to give a more accurate picture in either direction the magnitude will still be staggering**." Professor Ockerman**

Table 1 – World Population Estimates - 1960-2000

Country	Region	1960	1965	1970	1975	1980	1985	1990	1995	2000
		Population in thousands								
World		3,020,000	3,336,000	3,698,000	4,079,000	4,448,000	4,851,000	5,292,000	5,662,000	6,057,000
World – (Countries below)		900,885	2,436,589*	907,012	1,043,683	1,123,343	1,229,211	1,410,064	1,613,842	1,7640.820
Egypt (UAR)	Africa	25,832	29,600	33,329	37,233	41,995	48,349	53,153	57,510	63,976
Kenya	Africa	8,115	9,365	11,225	13,339	16,402	20,333	24,872	30,522	30,669
Morocco	Africa	11,626	13,323	15,520	17,305	20,242	22,026	25,061	26,386	28,705
Nigeria	Africa	52,000	na	55,073	62,925	77,082	95,690	108,542	99,278	115,224
Sudan	Africa									38,114
Upper Volta/ Burkina Faso	Africa	4,300	4,882	5,380	6,032	6,908	7,886	9,001		23,228
Afghanistan	Asia	13,799	na	17,087	19,280	Na	18,136	1,612	19,073	21,765

Source: **Midyear population estimates as found in the U.N. Demographic Yearbook and CIA World Fact Book**
Compiled by Food Agriculture and Environmental Science Library, OSU

Table 1 Cont.

Country	Region	1960	1965	1970	1975	1980	1985	1990	1995	2000
		Population in thousands								
China	Asia	650,000	na	771,840	838,803	956,848	1,059,520	1,139,060	1,219,349	1,275,133**
China (Taiwan)	Asia	10,612	12,429	incl. In China						22,603
India	Asia	429,027	na	539,075	598,097	663,596	750,859	827,057	921,889	1,002,142
Indonesia	Asia	93,506	na	118,368	135,230	151,894	164,630	179,300	197,622	210,486
Iran	Asia	20,182	23,428	28,662	33,019	37,447	47,820	54,608	59,187	63,664
Iraq	Asia	6,624	na	9,440	11,124	13,084	15,585	18,920	20,049	22,946
Japan	Asia	93,210	97,960	104,345	110,953	116,782	120,837	123,537	125,197	126,867
Korea, South	Asia	24,695	28,353	31,298	33,949	38,197	40,806	42,793	45,093	47,275
Philippines	Asia	27,410	32,345	36,852	42,261	48,400	54,668	61,480	70,267	76,320
Saudi Arabia	Asia			7,740	7,180	8,367	11,596	14,870	17,091	20,346
Singapore	Asia	1,634	1,865	2,075	2,250	2,391	2,558	3,003	3,526	4,131
Thailand	Asia	25,388	30,591	36,215	41,869	46,455	51,683	57,196	59,401	62,320
Turkey	Asia	27,755	32,005	34,849	40,025	45,356	Na	na	60,613	65,293
Austria	Europe	7,048	7,255	7,391	7,520	7,507	7,555	7,712	8,047	8,110
Bulgaria	Europe	7,867	8,207	8,490	8,721	8,862	8,960	9,011	8,406	7,949
Denmark	Europe	4,581	4,758	4,929	5,060	5,123	5,114	5,140	5,229	5,337
France	Europe	45,684	48,922	50,768	52,705	53,713	55,170	56,440	58,139	58,892
Germany	Europe									82,398
Hungary	Europe	9,984	10,148	10,338	10,532	10,713	10,649	10,553	10,229	10,024
Ireland	Europe	2,834	2,855	2,950	3,176	3,307	3,540	3,503	3,601	3,787
Italy	Europe	49,642	51,575	53,661	55,830	57,042	57,141	57,062	57,301	57,762
Macedonia	Europe			Na	na	Na			1,963	2,034
Netherlands	Europe	11,480	12,292	13,032	13,653	14,144	14,484	14,943	15,459	15,864
Norway	Europe	3,581	3,723	3,877	4,007	4,086	4,153	4,242	4,359	4,493
Poland	Europe	29,703	31,420	32,526	34,022	35,578	37,203	38,180	38,588	38,646
Portugal	Europe	8,826	9,234	8,663	9,426	9,933	10,157	10,525	9,916	10,008
Spain	Europe	30,303	31,604	33,779	35,596	37,430	38,474	38,959	39,210	39,466

Table 1 Cont.

Country	Region	1960	1965	1970	1975	1980	1985	1990	1995	2000
		Population in Thousands								
Spain Canary Islands	included in Spain									
Sweden	Europe	7,480	7,734	8,043	8,193	8,311	8,350	8,559	8,827	8,872
UK, England & Wales	Europe	45,862	na	48,673	49,157	49,246	56,618	57,237	58,606	59,501
UK, Ireland Northern	Europe	1,423	na	1,524	1,537	Na	with England	with England	With England	
UK Scotland	Europe	5,223	na	5,214	5,206	Na	with England	with England	with England	with England
USSR	Europe			242,757	254,469	265,542	277,357	288,595	147,774	145,491
Yugoslavia	Europe	18,402	19,511	20,371	21,365	22,344	23,124	23,809	10,547	10,635
Canada	North Am	17,909	19,604	21,324	22,727	23,941	25,165	26,522	29,354	30,750
Cuba	North Am	6,826	7,631	8,472	9,332	9,833	10,098	10,609	10,978	11,188
Puerto Rico	North Am					3,196				3,885
US	North America	180,684	194,572	204,878	213,559	227,640	238,466	249,975	263,044	283,230
Australia	Oceania			12,507	13,771	14,616	15,788	17,086	18,072	19,157
Fiji	Oceania									868
Moore a	Oceania						7			
New Zealand	Oceania			2,811	3,071	3,100	3,247	3,346	3,656	3,831
Tahiti	Oceania						116			
Argentina	S. Am.	20,669	22,352	23,748	25,384	27,064	30,331	32,322	34,768	37,032
Brazil	S. Am.	69,730	81,301	92,520	106,228	123,032	135,564	150,368	155,822	167,724
Chile	S. Am.	7,689	8,567	9,369	10,196	11,104	12,122	13,173	14,210	15,211

* Data hard to estimate since a large number of countries have no data for 1965.
** Taiwan population removed from China date for 2000
Data not available for countries in political transition

"All estimations of percentages (Table 2) at best are an educated guess" **Professor Ockerman.**
Validity, however, can be asserted in many countries where my alumni are in the Food Inspection and Regulatory Policy Areas. These efforts over a period of 45+ years have influenced the health and safety of the individual citizens of their respective country.

Table 2: Estimated Number of Global Citizens Influenced by 'The Ockerman Catalyst'
Global Network of Teaching, Research, Extension and Outreach Programs to support "**The Learning Cascade**".

Area	Year of First Contact	Population in Year 2000 or last Contact	Increase in Population in this Time Frame	Estimation is Based on Footnotes	Percent (%) Influenced. W_e =10% of global citizens influenced	Number Influenced **
World –	51- Present (used 60 as an average)	1,764,744	863,889	A	10% (W_e)	176,474
Afghanistan	73- 75	19,280	1,303	A, B	(W_e) +1%	2,120
Argentina	64- Present	37,032	23,711	A, C	(W_e) +70%	29625
Austria	79-81	7,507	49	A, D	(W_e) +5%	1,126
Australia	88- Present	19,157	4,710	A, E	(W_e) +2%	2,299
Brazil	76- Present	167,724	44,692	A, F	(W_e) +5%	25,158
Bulgaria	95-95	8,406	-92	A, G	(W_e) +0.5 %	883

Note : **All Population figures in thousands**
(W_e) represents the total Percent of global Citizens influenced

Table 2 Cont.

Area	Year of First Contact	Population in Year 2000 or last Contact	Increase in Population in this Time Frame	Estimation is Based on Footnotes	Percent (%) Influenced. W_e =10% of global citizens influenced	Number Influenced
Canada	68-Present	30,750	9,426	A, H	(W_e) +10%	6,156
Canary Islands	Included in Spain See Spain					
Chile	75- Present	15,211	5,015	A, I	(W_e) +5%	2,282
China	91- Present	1,275,133*	141,088	A, J	(W_e) +10%	28217
Taiwan	65- Present	22,603	10,174	A, K	(W_e) +70%	18,082
Cuba	90-00	11,188	76	A, L	(W_e) +2%	1,343
Denmark	70- Present	5,337	413	A, M	(W_e) +5%	801
Egypt	91- Present	63,976	11	A, N	(W_e) +10%	12,795
England and Wales	70- Present	59,501	10,828	A, O	(W_e) +10%	11,900
Fiji	97-98	868	24	A, P	(W_e) +0.1%	88
France	70- Present	58,892	8,124	A, Q	(W_e) +10%	17,778
Germany	80- Present	82,398	659	A, R	(W_e) +2%	9,887
Hungary	79-86	10,649	-64	A, S	(W_e) +2%	1,278
India	75- Present	1,002,142	404,045	A, T	(W_e) +3%	130,278
Indonesia	87- 97	197,622	32,992	A, U	(W_e) +0.5%	20,750
Iran	88- 90	54,608	1,769	A, V	(W_e) +0.05%	5,488
Iraq	82- 85	15,585	1,733	A, W	(W_e) +0.05%	1,566
Italy	79- Present	57,762	720	A, X	(W_e) +0.05%	5,805

Table 2 Cont.

Area	Year of First Contact	Population in Year 2000 or last Contact	Increase in Population in this Time Frame	Estimation is Based on Footnotes	Percent (%) Influenced Influenced. W_e =10% of global citizens influenced	Number Influenced
Ireland	74-83	3,540	327	A, Y	(W_e) +1%	389
Ireland, Northern	72- Present	3,924	1,212	A, Z	(W_e) +0.5%	412
Japan	78- Present	126,867	10,085	A, AA	(W_e) +2%	15,224
Kenya	00- 02	30,669	1,168	A, AB	(W_e) +0.5%	3,220
Korea South	79-87	42,793	2,542	A, AC	(W_e) +2%	5,135
Macedonia	95- 99	2,034	67	A, AD	(W_e) +4%	284
Moorea	97-98	7	?	A, AE	(W_e) +0.01%	1
Morocco	88-90	25,061	331	A, AF	(W_e) +2%	3,007
Netherlands	75- Present	15,864	2,211	A, AG	(W_e) +10%	3,173
New Zealand	79- 97	3,831	579	A, AH	(W_e) +2%	460
Nigeria	79- Present	115,224	76,284	A, AI	(W_e) +6%	18,436
Norway	96 -97	4,493	886	A, AJ	(W_e) +2%	539
Philippines	83-Present	76,320	27,900	A, AK	(W_e) +2%	9,158
Poland	72- Present	38,646	6,120	A, AL	(W_e) +70%	30,917
Portugal	84- 85	10,157	84	A, AM	(W_e) +2%	1,219
Puerto Rico	83- 85	3,196	56	A, AN	(W_e) +0.2%	326
Sudan	79-00	38,114	2,066	A. AO	(W_e) +2%	4,574
Sweden	76-77	8,311	2	A. AP	(W_e) +0.1%	839

Table 2 Cont.

Area	Year of First Contact	Population in Year 2000 or last Contact	Increase in Population in this Time Frame	Estimation is Based on Footnotes	Percent (%) Influenced W_e =10% of global citizens influenced	Number Influenced
Saudi Arabia	82- 00	20,346	11,978	A, AQ	(W_e) +1%	2,238
Singapore	87- 88	3,003	445	A, AR	(W_e) +1%	330
Spain	76- Present	39,466	3,570	A, AS	(W_e) +40%	19,733
Tahiti	97-98	116	4	A, AT	(W_e) +0.1%	12
Thailand	84- Present	62,320	10,637	A, AU	(W_e) +1%	6,855
Turkey	77- Present	65,293	26,268	A, AV	(W_e) +70%	52,234
Upper Volta	80-85	7,886	978	A, AW	(W_e) +0.1%	796
US	54- Present	283,230	102,546	A, AX	(W_e) +85%	269,068
USSR	77- 85	277,357	22,888	A, AY	(W_e) +2%	33
Yugoslavia	01-Present	10, 635	38	A, AZ	(W_e) +2%	1,276
Total**						1,133,308

*** Taiwan population removed**

****** Total Population influenced by HWO based on a number of intangible factors and an estimate of the influence of HWO information is expressed. When this is multiplied by 1,000 (population is in 1,000's) the **Total Number of CITIZENS** influenced is estimated at **1,133,308,000 Individuals.**

A= World-Countries Listed: 25-Professional Societies; 59-Biographical Listings; 27-International Committees; Attended and presented several research papers which was published In Proceedings, of Almost all International Meat Research Congresses since 71, This Congress Usually Has ~ 600 of the Worlds Leaders of Meat Research form ~ 40 Countries; Lead the first US meat study tour to Europe. Attended many other International Conferences, often as the Keynote Speaker and usually participants were from several International Locations; Published 1,650+ Research and Educational Papers in both American and International Sources. Often with International Co-Authors, some are Multilingual, some have been translated into other languages; Published 77 Books or Book Chapters and many 1,000's of these have been sold around the world by both OSU and publishers; Abstracted Food Research Articles from 51-71 for American Meat Science Association and Chemical Abstracts from 65-76 and both of these had world wide distributions; Reviewed Books for Choice (for College and Research Laboratories) from 79 – Present and for Libraries Unlimited from 87 to Present and both of these have world wide distributions; other publications include Research Bulletins and Circulars, Departmental Series, Popular Articles, International Newsletters, Summaries of International Congresses, all of which have far-reaching distributions. In addition to direct contact many of the Participants and Readers pass this information along to their students and clientele giving a pyramid effect to the food knowledge transfer; Have developed (01 to Present) an International List Serve in which current food policy related information is sent out almost daily. Interact with my alumni at least weekly who run the Ohio State International Exchange Program who brings college students in from around the world to gain practical agriculture experiences and in some cases take university classes in the US. Also sends US agricultural students around the world to gain international experiences.

B= Afghanistan: Trained Visiting Professor in Food Area.

C= Argentina: Trained Numerous Students, Visiting Professors, Industry Personal, Consultants, Governmental Food Leaders and Regulators, Many of which are now in charge of most of the food research in Argentina; Participant and Keynote Speaker at Many Food Congress there; conducted Short Courses for Industry; conducted Video Conferences for Universities and most of the major commodity groups; hosted Food Personal in US. Taught and assisted one of their leaders in obtaining The highest monetary award ever given to a Meat Scientist at the 11th World Meat Congress in Beijing. Their Pyramiding effect not only has had an influence of the diet of most of the people of their country but since they export meat around the world has had an impact there as well.

D= Austria: Visited and consulted with a number of major food industries both in Austria and in the US. Expert consultation for the UN coordinated out of Vienna. Research papers presented at international congress held in Vienna.

E =Australia: Presented food research papers at International Conference there, visited and consulted with food plants, worked with University Personal and Broadcasters both in US and Around the world at other international food conferences.

F =Brazil: Trained Graduate Students. Visited and consulted with most of the agricultural cooperatives, Research and Experiment Stations, Industry Leaders, Universities and their Leaders, Political Leaders, in Southern Brazil. Presented food research papers in Cooperation with my International Alumni at International Food conferences there. Participated in "Partners of America" program and workshop and gave many presentations in Southern Brazil.

G =Bulgaria: Research Papers presented at International Food Congress. Shipment of Books and hosted Agricultural Visitors in US.

H =Canada: Trained Graduate Student, presented papers at International Congresses held in Canada, Sent Graduate Students there for training, visited and consulted with food plants, Assisted in establishing a alumni in the food business, belonged to the Canadian Meat Research Origination, assisted in recommendations and evaluating key personal for food industry, and used Canadian material in US and international programs. Review research papers for Canadian Editor.

I =Chile: Trained Graduate Student, Consulted with and gave advice to cold storage, supermarket, and food transpiration areas. Visited schools, encouraged OSU graduates to get teaching experience there, shipped a container load (~36,000) of books there.

J =China: Only American invited to 3 food conferences and to co-ordinate a trade mission between Taiwan and Mainland China, which has political stabilizing consequences as well as food ramifications. Trained visiting professors from China. Attended and participated in the World Food Congress there where my alumni received the highest monetary award ever given to a meat scientist. Visited, consulted and made recommendations with many food plants. Lectured at dozens of universities there. Hosted many Chinese visitors in the US. Held seminars in China on how to be accepted to American Universities. Shipped text books to China.

K =Taiwan: Have trained many doctorate students, visiting scientist and professors, most of the leading Meat Scientist in Taiwan, who are now VP's, Deans, Departmental Chairman's, Faculty members of many Universities, and leading scientist in research stations and industry. Visited and advised most of the meat companies there, attended many conferences there often as keynote speaker. Have given many short courses, internet classes, and lectured students and OSU alumni there. With the aid of alumni have established two Food Science Endowments at two Universities in Taiwan. Have shipped many books there including one container load containing 19,810 books and 4,162 museum slides + projector. Many joint research project which have resulted in joint authorship of the research and several joint book publications. Coordinated purchase of large shipments of US grains to Taiwan.

L =Cuba: My research was presented at international food conference. Telephone and e-mail consulting with several food companies.

M =Denmark: Presented food research papers at several international food conferences. Took the first US Agricultural study tour there. Hosted many food researchers in the US. Visited, consulted and gave advice to several food plants. Sent Alumni there for post doctoral work.

N= Egypt: Interacted with several Universities, trained visiting professors in US. Keynote speaker at international food hygiene congress. Given international university award (first time given to an American). Participated in Cooperative research. Visited, consulted and gave advice to food plants. Made an honorary member of Vet. Faculty. Sent Ohio graduate students there for international education and research.

O= England and Wales: Presented papers at International Congress there. Sent OSU students there for part of their UG education. In both countries have consulted, and given advice to food companies. Also lead the first US meat study tour here. Supervised visiting scholars in US and visited their companies in England. Written laboratory text books that were translated into British English.

P= Fiji: Taught short courses on American Educational System

Q= France: Sent OSU student there for part of UG education. Received International food award from French firm. Lead first international meat study tour to France from the US. Hosted French student to gain practical agricultural experience

in US. Visited, consulted and given advice to several food industries. Presented papers to several international food conferences there..

R= Germany: Have sent OSU UG Students there to study. Took the 1st US Meat Science study tour of students to Germany. Have been speaker at conferences and consulted with meat processing plants and offered advice on improvement.

S= Hungary: Presented food research papers at international congress. Supervised visiting professors. Visited food research units and gave advice on improvement.

T- India: Sent OSU students there for part of UG education. Taught short course on animal by product evaluation hosted by the UN in India. Supervised visiting professors and graduate students in US. Received an award for advising student leaders form India. Shipped 36,000 text books distributed through many schools and colleges of Ramakrishna Mission, India. Many joint publications.

U= Indonesia: Hosted visiting professors and joint publications.

V= Iran: Educated doctoral students from there. Shipped text books.

W= Iraq: Educated doctoral students from there. Shipped text books.

X= Italy: Educated students from Italy. Research papers presented at International Food Congress.

Y= Ireland: Presented Food Research papers at international conference. Leader of 1st University Meat Study Tour to Ireland, visited with Governmental Food Research Institute, advisor on their research.

Z= Ireland: Northern: Leader of 1st University Meat Study Tour to Northern Ireland, visited with Governmental Food Research Institute to obtain advice on their research.

AA= Japan: Presented papers at International Food Conferences. Taken courses under Japanese instructors at OSU. Consulted with Japanese researchers and gave advice on research technique. Consultation with plants and production units and gave advice on improvement.

AB= Kenya: Sent OSU students to Kenya to study nutrition of natives and particularly feeding of the malnourished.

AC= South Korea: Advised doctoral students. Consulted with plants and gave advice.

AD= Macedonia: Advised doctoral students and Visiting scholars.

AE= Moorea: Lectured Agriculture Technical School.

AF= Morocco: Advised visiting scholar, toured plants and agricultural areas and governmental food inspection areas and gave advice on improvements.

AG= Netherlands: Presented food research papers at several International Conferences. Sent numerous OSU students there for both UG and G education. Some of these students brought back processing information that quadrupled profits for some segments of the US food industry. Hosted many University Research, Governmental Research and Industry personnel in the US. Consulted with food and flower industry personal and gave advice on improvements. Lead the 1st meat study tour to The Netherlands. Received several awards form their Universities.

AH= New Zealand: Presented food research papers at International Food Conference. Visited plants and gave advice on US processing. Consulted with Universities or teaching techniques.

AI= Nigeria: Advised doctoral students**.** Consulted with research and joint authorship of research papers. Published papers relative to Nigeria.

AJ= Norway: Sent Graduate Students there for education. Joint authorship of research papers. Presented food research Papers at International Conferences. Lead the 1st University Meat study tour to Norway.

AK= Philippines: Supervised doctoral students. Presented food research, US educational procedures papers. Shipped books. Presented awards form the Philippines. Consulted with food companies and gave advice on improvement.

AL= Poland: Trained most of the people as Post Dr's in the food area in Poland and they are now in Government Research Organizations, Universities, Inspection and in Industries. Presented food research papers at international conferences and to the National academy of Science. First American to be awarded this recognition. Consulted with food plants and gave advice on improvements and how to get approval on food products to be accepted in the US.

AM= Portugal: Presented short courses. Consulted with Food and Wine industry and gave advice.

AN= Puerto Rico: Supervised and advisor to BS students.

AO= Sudan: Supervised doctoral student who is now dean of The National Agricultural University.

AP= Sweden: Hosted science visitors. Seminar on US education. Consulted with Scientist on research.

AQ= Saudi Arabia: Supervised doctoral student. Presented seminars and joint papers on food, concerning Saudi Arabia.

AR= Singapore: Food research paper presented at international food conference there.

AS= Spain and Canary Islands: Trained Graduate students, and many post doctoral students who are in responsible University and Industry positions in both Spain and Canary Islands. Presented food information at several international conferences and was keynote speaker at some. Received awards form University.
Consulted with Industry, evaluated product and make suggestions for improvement.

AT= Tahiti: Lecture to University. Consulted with food plants and gave advice**.**

AU= Thailand: Supervised Visiting Scholar and conducted joint food research**.**

AV= Turkey: Supervised many doctoral students and visiting Professors. Most are working in Universities as administrators or in research and teaching area. Secretary of Agriculture is one of these alumni. Given food lectures in

Turkey. Consulted with plants and gave advice on operation and admission of product to US. Many joint research projects and publications**.**

AW= Upper Volta: Advised Peace Corp student on water utilization.

AX=US: Trained 1,200 meat inspectors in chemistry, statistics and microbiology. Trained numerous alumni at both the UG and G level and a good percentage of upper management in the US Meat industry are among these alumni. Many others are in university positions. Numerous scientific papers presented at national and local food conferences. Have received many recognitions in the international food areas. Consultant and advisor to food industry. Expert witness in legal area. Conduct research pertinent to both the US and International environment. Many that have had major influence in the sterile meat area, tumbling of meat and mechanically deboned tissue. Written 77 food textbooks and chapters, used not only in US but around the world. Published 1,600+ food articles**.** Member of FAO Network on Excellence on Food Quality, Safety and Nutrition (F.Q.S.N). Expert joint FAO/WHO committee on food additives and contaminants (JECFA). Established two international endowments in the U.S.

AY= USSR: Presented food research paper at international conference there. Invited as a guest speaker to international conference. Shipped books to Russia. Hosted research scientist.

AZ= Yugoslavia: Trained doctoral student. Joint publications**.**

World Wide Impact

Contribution to Science

'**SNDT**'- Sterile Non Denatured Muscle Tissue procedure developed through laboratory research in the United States is a method of evaluating individual microorganisms critical to the self stable characteristics of protein sources in all type of food products. It is critical in the study of food spoilage organisms and its effect on public health.

This knowledge has contributed to safe food to over 1 billion people world wide, both in developed and underdeveloped countries. Data from Zambia and Zimbabwe on supplementary feeding of undernourished children, TB patients and at risk pregnant women indicate how beneficial this research is towards increased shelf stability of proteins derived from both plant and animal sources. This science is crucial for preservation of food and for increased shelf life of food aid all over the world.

Contribution as an Educator

Coming from a small town rural background, Dr Ockerman remained a college professor for all his life and continued tirelessly to encourage education worldwide by shipping textbooks to more than 100 countries. "130 million children do not go to school" is his punch line. Single handedly with full support from the local community he sends used old textbooks to schools or universities in need. Thus for example his books can be seen in some of the most rural villages of India or across the globe in Chile. Literacy, access to basic education and training of teachers are his primary vision. He has continued to establish endowments in honor of his deceased wife to improve the 'education of women' and recognize their leadership capabilities as educators through out the world. In one such program he helped establish a science laboratory in the border states of India and Pakistan. The enrollment of women in this Quranic School went up by 100%, this was a very big reward for a small endeavor. He firmly believes in the international slogan concerning giving a man a fish and teaching him to fish.

Contribution as an Individual

Dr Ockerman is amongst the first few to change the US Meat Inspection systems, laying foundations for changes in the Inspection system throughout the world. This has led the way to the H.A.C.C.P system an Accepted Food Safety procedures across the globe, encouraged trace back systems and food labels influencing global trade barriers dramatically.

Dr Ockerman published has 1600+ papers in the food area and has written 77+ plus books or book chapters and two volumes of the Food Science Source book to stimulate the **'Ockerman Catalyst'** of a stronger mind through food for all.

Based on this contribution some diseases like Foot and Mouth in Argentina have essentially been brought under control, contributing over billions to the economy of the country involved. He worked on numerous committees on trade issues between Mainland China and Taiwan and with hundreds of scientists across the globe to solve different crisis arising out of food safety concerns.

His role in the global community as a world citizen has often been described as a "**SEED SOWER**". He has trained countless Educators, University, Industry and Country leaders in the area of Food Production, Safety and Technology. This "**Learning Cascade**" thus developed continues to affect humanity world wide. "If I as an individual can sow even one seed, I will do so.", he tells the wonderfully growing trees around him.

The same procedure used in Table 1 was repeated in Table 3 for Life Expectancy.

Table 3 – Life Expectancy 1960-2000, Compiled by OSU Librarian Estimates found in the U. N. Demographic Yearbook and CIA World Fact Book

AREA	Region		1960		1966		1970		1975		1980		1985		1990		1995		2000
		yrs used 1960		yrs used 1966		yrs used 1970		yrs used 1975		yrs used 1980		yrs used 1985		years used 1990		yrs used 1995		yrs used 2000	
Egypt (UAR)	Africa	1936-38	35.65	1960	51.60	1960	51.60	1960	51.60	1960	51.60	1960	51.60	1985-90	57.80	1991	62.86	1996	65.15
Kenya	Africa	1946-49 white only	63.80	1962m /f	40-45	1965-70m/f	47.50	1969	46.90	1969	46.90	1969	46.90	1985-90	56.50	1990-95	54.18	1995-2000	51.20
Morocco	Africa		na	1960m /f	49.60	1965-70m/f	50.50	1970-1975	51.40	1975-1980	53.80	1980-1985	56.60	1985-90	59.10	1990-95	61.58	1995-2000	64.80
Nigeria	Africa		na			1965-66	37.20	1965-1966	37.20	1965-1966	37.20	1965-1966	37.20	1985-90	48.80	1990-95	48.81	1995-2000	51.00
Upper Volta (Burkina Faso)	Africa		na	1960-61	32.10	1960-61	32.10	1960-1961	32.10	1960-	32.10	1960-1961	32.10	1986-90	45.60	1990-95	45.84	1995-2000	46.70

Table 3 Cont.

AREA	Region	yrs used 1960	1960	yrs used 1966	1966	yrs used 1970	1970	yrs used 1975	1975	yrs used 1980	1980	yrs used 1985	1985	years used 1990	1990	yrs used 1995	1995	yrs used 2000	2000
Canada	North America	1955-57	67.61	1960-62	68.35	1965-1967	68.75	1970-1972	69.34	1975-1977	70.19	1980-1982	71.87	1985-87	73.02	1985-87	73.02		na
Cuba	North America		na			1965-70m/f	66.80	1970	68.50	1970	68.50	1977-1978	72.32	1983-84	72.66	1988	72.89		na
US	North America	1958	66.40	1965	66.80	1968	66.60	1974	68.20	1978	69.50	1983	71.00	1988	71.50	1993	72.20	1998	73.80
Argentina	South America	1947	56.90	1959-61	63.13	1959-1961	63.13	1970-1975	65.16	1970-1975	65.16	1975	65.43	1980-81	65.48	1990-91	68.17		na
Brazil	South America	1940-1950	39.30	1940-50	39.30	1965-70m/f	60.70	1960-1970	57.61	1960-1970	57.61	1960-1970	57.61	1985-90	62.30	1995	63.81	1998	64.40
Chile	South America	1952	49.84	1952	49.84	1960-1961	54.40	1969-1970	60.48	1975-1980	61.30	1975-1980	61.30	1985-90	68.05	1995	71.83	1999	72.43
Afgan-istan	Asia		na			1965-70m/f	37.50	1970-1975	39.90	1975-1980	42.00	1980-1985	36.60	1985-90	41.00	1990-95	43.00	1995-2000	42.30
China	Asia		na			1965-70m/f	50.00	1970-1975	59.90	1975-1980	62.10	1980-1985	66.70	1985-90	68.00	1990-95	66.70	1995-2000	67.90
China (Taiwan)	Asia	1936-41	41.08	1959	61.33	1965	65.84												
India	Asia	1941-50	32.45	1951-60	41.89	1951-1960	41.89	1951-1960	41.89	1961-1970	46.40	1961-1970	46.40	1976-80	52.50	1986-90	57.70	1995-2000	61.90
Indo-nesia	Asia		na		na	1960	47.50	1960	47.50	1960	47.50	1960	47.50	1985-90	58.50	1990-95	61.00	1995-2000	63.30
Iran	Asia		na		na	1965-70m/f	50.00	1970-1975	50.70	1973-1976	57.63	1976	55.75	1976	55.75	1986	58.38	1995-2000	67.30
Iraq	Asia		na		na	1965-70m/f	51.60	1970-1975	51.20	1975-1980	53.60	1980-1985	61.50	1985-90	63.00	1990	77.43	1998	76.14
Japan	Asia	1959	65.21	1965	67.73	1968	69.05	1974	71.16	1979	73.46	1984	74.54	1989	75.91	1994	76.57	1999	77.10
Korea, South	Asia	1938 (North also)	47.29	1955-60	51.12	1955-1960	51.12	1970	63.00	1978-1979	62.70	1978-1979	62.70	1985-90	66.20	1991	67.66	1995-2000	70.60
Philippin-es	Asia	1946-49	48.81	1946-49	48.81	1946-1949	48.81	1970-1975	56.90	1975-1980	59.10	1980-1985	60.20	1989	62.50	1991	63.10	1995-2000	66.50

Table 3 Cont.

AREA	Region	yrs used 1960	1960	yrs used 1966	1966	yrs used 1970	1970	yrs used 1975	1975	yrs used 1980	1980	yrs used 1985	1985	years used 1990	1990	yrs used 1995	1995	yrs used 2000	2000
Saudi Arabia	Asia		na			1965-70m/f	42.30	1970-1975	44.20	1975-1980	46.70	1980-1985	59.20	1985-90	61.70	1990-95	68.39	1995-2000	69.90
Singa-pore	Asia		na			1965-70m/f	68.20	1970	65.10	1970	65.10	1980	68.70	1980	68.70	1994	74.20	2000	76.00
Thailand	Asia	1947-48	48.69	1947-48	48.69	1960	53.60	1960	53.60	1960	53.60	1974-1975	57.63	1985-86	63.82	1985-86	63.82	1995-2000	66.70
Turkey	Asia		na	1950-51	46.00	1966m/f	53.70	1966m/f	53.70	1966m/f	53.70	1966m/f	53.70	1985-90?	62.50	1989	63.26	1995-2000	na
Austria	Europe	1949-51	61.91	1959-61	65.60	1969	66.46	1974	67.40	1979	68.52	1984	70.07	1989	72.09	1994	73.34	1999	75.10
Bulgaria	Europe	1925-28	45.92	1960-62	67.82	1965-67	68.81	1969-1971	68.58	1974-1976	68.68	1978-1980	68.35	1987-89	68.33	1991-93	67.71	1995	67.07
Denmark	Europe	1951-55	69.87	1963-64	70.30	1967-1968	70.60	1972-1973	70.80	1978-1979	71.30	1983-1984	71.50	1987-88	71.80	1992-93	72.49	1999	74.23
France	Europe	1952-56	65.04	1964	68.00	1968	68.00	1972	68.60	1977-1979	69.89	1980-1982	70.42	1988	72.33	1992	72.94	1998	74.78
Hungary	Europe	1958	65.12	1964	67.00	1964	67.00	1972	66.87	1979	66.65	1984	65.55	1989	65.44	1994	64.84	1999	75.13
Ireland	Europe	1950-52	64.53	1960-62	68.13	1960-1962	68.13	1965-1967	68.85	1970-1972	68.77	1980-1982	70.14	1985-87	71.01	1990-92	72.30	1999	73.87
Italy	Europe	1954-57	65.75	1960-62	67.24	1960-1962	67.24	1970-1972	68.97	1974-1977	69.69	1977-1979	70.61	1985	72.01	1992	73.79	1995	74.64
Maced-onia	Europe																		
Netherla nds	Europe	1953-55	71.00	1961-65	71.10	1968	71.00	1973	71.20	1979	72.40	1982-1983	72.99	1988-89	73.66	1992-93	74.21	1999	75.33
Norway	Europe	1951-55	71.11	1956-60	71.32	1961-1965	71.03	1972-1973	71.32	1978-1979	72.27	1982-1983	72.69	1989	73.34	1993	74.24	1999	75.63
Poland	Europe	1958	62.80	1960-61	64.80	1965-1966	66.85	1970-1972	66.83	1975-1976	67.30	1984	66.84	1988	67.15	1993	67.37	1999	68.83
Portugal	Europe	1957-58	59.80	1959-62	60.73	1959-1962	60.73	1974	65.29	1975	65.09	1975	65.09	1979-82	68.35	1993-94	71.18	1999	71.98
USSR (Russian Federatio n as of 1995)	Europe & Asia	1957-58	64.00	1964-65	66.00	1967-1968	65.00	1971-1972	64.00	1971-1972	64.00	1971-1972	64.00	1989-90	64.60	1994	57.59	1999	59.93
Spain	Europe	1950	58.76	1960	67.32	1960	67.32	1970	69.69	1970	69.69	1975	70.41	1980-82	72.52	1990-91	73.40	1996	74.74

Table 3 Cont.

AREA	Region	yrs used 1960	1960	yrs used 1966	1966	yrs used 1970	1970	yrs used 1975	1975	yrs used 1980	1980	yrs used 1985	1985	years used 1990	1990	yrs used 1995	1995	yrs used 2000	2000
Sweden	Europe	1957	70.82	1961-65	71.60	1967	71.85	1970-1974	72.11	1979	72.48	1984	73.84	1988	74.15	1994	76.08	1999	77.06
United Kingdom -England & Wales	Europe	1959	68.10	1963-65	68.30	1967-1969	68.70	1970-1972	68.90	1976-1978	70.00	1982-1984	71.60	1986-89	72.15	1994	74.17	1999	74.98
United Kingdom - Ireland, Northern	Europe	1957-59	67.44	1963-65	67.84	1967-1969	68.30	1972-1974	64.97	1976-1978	67.76	1983	69.25	no separate listing		no separate listing		no separate listing	
United Kingdom - Scotland	Europe	1959	66.00	1963-65	66.34	1967-1969	67.06	1971-1973	67.23	1976-1978	68.07	1982-1984	69.85	no separate listing		no separate listing		no separate listing	
Yugo-slavia	Europe	1952-54	56.92	1961-62	62.41	1966-1967	64.74	1970-72	65.42	1970-1972	65.42	1980-1981	67.69	1988-90	68.64	1990-95	69.50	1997	69.79
Canary Islands	included in Spain																		
Australia	Oceania	1953-55	67.14	1960-62	67.92	1960-1962	67.92	1965-1967	67.63	1979	70.79	1984	72.59	1989	73.30	1994	75.04	1997	76.22
New Zealand	Oceania	1950-52	w=68.29/m54.05	1960-62	68.44	1960-1962	68.44	1970-1972	68.55	1975-1977	69.01	1984	71.19	1987-98	71.57	1990-92	72.86	1997	75.24
Moorie																			
Tahiti																			

The same procedure used in Table 2 is repeated in Table 4 except the data in Table 4 are not as good as in Table 2. Data on "World-Rest of Countries" are eliminated and only countries where major influence is reported (even though significant influence was exerted in these counties which were eliminated) and ? indicates that that information is not available or time of contact was limited and these data are also not included.

Table 4. Estimated Life Expectancy of Consumers as Influenced by Professor Ockerman Network of Teaching, Research and Extension Programs

Area	Year of First Contact	Life Expectancy in Year 2000 or last Contact	Increase in Life Expectancy in this Time Frame	Population in Year 2000 or last year of contact	Human years gained (Increase X Population)	Estimation is Based on Footnotes. See table2 for information	Percent (%) Influence, same values as used in Table 2	Influence on Number of Human Years Gained
World		63.95						?
World – Counties Listed Below	51- Present (used 60 as an average)			1,764,744		A	10% (influence on other countries in addition to the 10%)	?
Afghanistan	73- 75	39.90	2.40	19,280	46,272	A, B	11%	5,090

Table 4 Cont.

Area	Year of First Contact	Life Expectancy in Year 2000 or last Contact	Increase in Life Expectancy in this Time Frame	Population in Year 2000 or last year of contact	Human years gained (Increase X Population)	Estimation is Based on Footnotes. See table2 for information	Percent (%) Influence, same values as used in Table 2	Influence on Number of Human Years Gained
Argentina	64-Present	75.48	12.35	37,032	457,345	A, C	80%	365,876
Austria	79-81	68.52	?	7,507	?	A, D	15%	?
Australia	88-Present	76.22	2.92	19,157	55,938	A, E	12%	6,713
Brazil	76-Present	64.40	12.80	167,724	2,146,867	A, F	15%	322,030
Bulgaria	95-95	67.71	?	8,406	?	A, G	10.5 %	?
Canada	68-Present	79.83	11.49	30,750	353,317	A, H	20%	70,663
Canary Islands	Included in Spain See Spain							
Chile	75-Present	72.43	18.05	15,211	274,559	A, I	15%	41,884*
China	91-Present	67.90	0.10	1,275,133*	127,513	A, J	20%	25,503

Table 4 Cont.

Area	Year of First Contact	Life Expectancy in Year 2000 or last Contact	Increase in Life Expectancy in this Time Frame	Population in Year 2000 or last year of contact	Human years gained (Increase X Population)	Estimation is Based on Footnotes. See table2 for information	Percent (%) Influence, same values as used in Table 2	Influence on Number of Human Years Gained
Taiwan	65-Present	71.89	10.56	22,603	238,688	A, K	80%	190,950
Cuba	90-00	76.80	4.14	11,188	46,318	A, L	12%	5,503
Denmark	70-Present	74.23	3.63	5,337	19,373	A, M	15%	069
Egypt	91-Present	65.15	7.35	63,976	470,224	A, N	20%	94,045
England and Whales	70-Present	74.98	6.28	59,501	373,666	A, O	20%	74,133
Fiji	97-98	68.88	?	868	?	A, P	10.1%	?
France	70-Present	74.78	6.78	58,892	399,288	A, Q	20%	79,858
Germany	80-Present	78.42	?	82,398	?	A, R	12%	?
Hungary	79-86	75.13	8.48	10,649	09,304	A, S	12%	10,836
India	75-Present	61.90	20.01	1,002,142	20,052,861	A, T	13%	2,606,871
Indonesia	87- 97	63.30	15.80	197,622	3,122,408	A, U	10.5%	327,855

Table 4 Cont.

Area	Year of First Contact	Life Expectancy in Year 2000 or last Contact	Increase in Life Expectancy in this Time Frame	Population in Year 2000 or last year of contact	Human years gained (Increase X Population)	Estimation is Based on Footnotes. See table2 for information	Percent (%) Influence, same values as used in Table 2	Influence on Number of Human Years Gained
Iran	88- 90	67.30	?	54,608	?	A, V	10.05%	?
Iraq	82- 85	76.14	?	15,585	?	A, W	10.05%	?
Italy	79- Present	74.64	4.95	57,762	285,921	A, X	10.05%	28,735
Ireland	74-83	70.14	2.28	3,540	8,071	A, Y	11%	888
Ireland, Northern	72- Present	74.98	6.68	3,924	26,212	A, Z	10.5%	2,752
Japan	78- Present	77.10	3.64	126,867	461,795	A, AA	12%	55,415
Kenya	00- 02	51.2	?	30,669	?	A, AB	10.5%	?
Korea South	79-87	62.2	-0.50	42,793	-21,396	A, AC	12%	-2,568
Macedonia	95- 99	74.49	?	2,034	?	A, AD	14%	?
Moore a	97-98	75.45	?	7	?	A, AE	10.01%	?
Morocco	88-90	59.10	2.50	25,061	62,652	A, AF	12%	7,518
Netherlands	75- Present	75.33	4.13	15,864	65,518	A, AG	20%	13,104
New Zealand	79- 97	75.24	6.23	3,831	23,867	A, AH	12%	2,864

Table 4 Cont.

Area	Year of First Contact	Life Expectancy in Year 2000 or last Contact	Increase in Life Expectancy in this Time Frame	Population in Year 2000 or last year of contact	Human years gained (Increase X Population)	Estimation is Based on Footnotes. See table2 for information	Percent (%) Influence, same values as used in Table 2	Influence on Number of Human Years Gained
Nigeria	79-Present	51.00	13.80	115,224	1,590,091	A, AI	16%	254,415
Norway	96 -97	75.63	?	4,493	?	A, AJ	12%	?
Philippines	83-Present	66.50	6.30	76,320	480,816	A, AK	12%	57,698
Poland	72-Present	68.83	2.0	38,646	77,292	A, AL	80%	61,834
Portugal	84- 85	71.98	?	10,157	?	A, AM	12%	?
Puerto Rico	83- 85	77.26	?	3,196	?	A, AN	10.2%	?
Sudan	79-00	57.73	?	38,114	?	A. AO	12%	?
Sweden	76-77	77.06	?	8,311	?	A. AP	10.1%	?
Saudi Arabia	82- 00	66.50	19.8	20,346	402,850	A, AQ	11%	44,314
Singapore	87- 88	76.00	?	3,003	?	A, AR	11%	?
Spain	76-Present	74.74	5.05	39,466	199,303	A, AS	50%	99,651
Tahiti	97-98	75.45	?	116	?	A, AT	10.1%	?
Thailand	84-Present	66.70	9.07	62,320	565,242	A, AU	11%	62,177

Table 4 Cont.

Area	Year of First Contact	Life Expectancy in Year 2000 or last Contact	Increase in Life Expectancy in this Time Frame	Population in Year 2000 or last year of contact	Human years gained (Increase X Population)	Estimation is Based on Footnotes. See table2 for information	Percent (%) Influence, same values as used in Table 2	Influence on Number of Human Years Gained
Turkey	77-Present	71.80	18.10	65,293	1,181,803	A, AV	80%	945,442
Upper Volta	80-85	46.70	14.60	7,886	166,136	A, AW	10.1%	11,629
US	54-Present	73.80	7.4	283,230	2,095,905	A, AX	95%	1,001,110
USSR	77- 85	67.66	1.66	277,357	460,413	A, AY	12%	55,250
Yugoslavia	01-Present	75.71	5.72	10, 635	60.832	A, AZ	12%	7,300
Total							**7,927,614**	

?=Data not available or short term contact
*= Taiwan information removed

To translate this total into actual it is necessary to multiply it by 1,000 giving us an estimate of 7,927,614,000 Human Years gained (similar to full time equivalent).

However FAO warns us that food is not the only factor influencing life expectancy and sites as an example that many countries that have not increased their calorie content over the years but have significantly improved life expectancy. But, they go on to indicate that there is a broad correlation between infant and adult mortalities and the food supply.

However, no one to my knowledge has given a good figure on a numerical relationship between these factors. Therefore, an educated guess is again required.

Therefore, for this crude estimation I will conservatively (in my opinion) downscale the above figure by 1/10,000 of people influenced to people that could have some influence on their own or their country's life expectancy.

Summary

Estimate of 1,133,308,000 Total number of Consumers Influenced.

Estimate of 79,276 (above number ÷ by 10,000) Human Years Gained (similar to full time equivalents).

Education has a profound impact on solving the world's food problem and also other problems such as population control, terrorism, just to mention a few critical problems.